

# Notice of Allowability

Application No.

09/746,228

Examiner

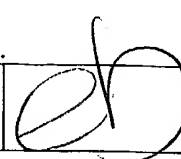
Wesley D Markham

Applicant(s)

NAKAMURA ET AL.

Art Unit

1762



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendments of 4/16/04 and 4/21/04.
2. ☒ The allowed claim(s) is/are 14,19-22 and 26-32.
3. ☒ The drawings filed on 16 April 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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## DETAILED ACTION / ALLOWANCE

### *Response to Amendment*

1. Acknowledgement is made of the amendment (4/16/2004) and the supplemental amendment (4/21/2004) filed by the applicant in the instant application, which resulted in (1) the cancellation of Claims 13, 15 – 18, and 23 – 25, (2) the amendment of Claim 28, and (3) the addition and subsequent amendment of Claims 29 – 32. Claims 14, 19 – 22, and 26 – 32 are currently pending in U.S. Application Serial No. 09/746,228, and an Office Action on the merits follows.

### *Drawings*

2. The replacement sheet of drawings (1 sheet, 3 total figures) filed by the applicant on 4/16/2004 is acknowledged and approved by the examiner.

### *Allowable Subject Matter*

3. Claims 14, 19 – 22, and 26 – 32 are allowed.
4. The following is an examiner's statement of reasons for allowance: Independent **Claims 14** (from which **Claims 19 – 22 and 26 – 31** depend) and **32** are drawn to a method for producing a transparent laminate. The claimed method comprises depositing a high refractive index transparent thin film by a vacuum dry process, depositing a silver transparent conductive thin film by a vacuum dry process, repeating the aforementioned deposition steps at least three times to thereby form at least three combination thin film layers of the high refractive index thin film and the

silver transparent conductive thin film successively laminated on a transparent substrate, and depositing another high refractive index transparent thin film on a surface of the combination thin film layers by a vacuum dry process, wherein the temperature  $T$  (K) of the transparent substrate at the time of depositing the silver transparent conductive thin films is set to be in a range of 340 to 390 K, inclusive, and a deposition rate  $R$  (nm/sec) of the silver transparent conductive thin films is set to be  $R = (1/40) \times (T-300) \pm 0.5$ . A summary of the closest prior art of record follows.

Anzaki et al. (USPN 6,316,110 B1) teaches a method for producing a transparent laminate, specifically an electromagnetic wave filter for a plasma display panel (Abstract), the method comprising the steps of preparing a transparent substrate (Col.1, lines 5 – 15, Col.3, lines 10 – 11), depositing a transparent dielectric layer having a refractive index of up to 2.8 (i.e., a “high refractive index” film) on the substrate, depositing a silver transparent conductive thin film on the dielectric layer, repeating the aforementioned steps three times to obtain three combination thin film layers on the substrate, and depositing another transparent dielectric layer (i.e., “high refractive index” film) on the combination thin film layers (Col.3, lines 1 – 25, Col.4, lines 14 – 40, Col.5, lines 1 – 9, Col.6, lines 8 – 12 and 45 – 55, and Figure 2). The layers are deposited by a “vacuum dry process” such as sputtering (Col.6, lines 13 – 29) while heating the substrate to a temperature of 300° C (i.e., 573 K) or lower during the silver film formation (Col.6, lines 20 – 23), a temperature range that encompasses the applicant’s claimed temperature range. Okamura et al. (USPN 6,104,530) teaches a method of producing a transparent laminate, specifically an

optical filter (Abstract), the method comprising the steps of preparing a transparent substrate (Abstract), depositing a high refractive index transparent film, depositing a silver transparent conductive film on the high refractive index transparent film, repeating the aforementioned deposition steps three to six times to form three to six combination thin film layers on the substrate, and depositing another high-refractive index transparent film on the surface of the combination thin film layers (Abstract, Col.4, lines 38 – 54, Col.5, lines 1 – 5, Cols.6 – 7, Col.9, lines 18 – 67, Col.27, lines 6 – 67, Col.28, lines 1 – 14, and Figure 2). The layers are deposited by a “vacuum dry process” such as sputtering (Col.11, lines 45 – 67, and Col.12, lines 1 – 8), and Okamura et al. is silent regarding the temperature of the substrate during the sputtering process(es). However, neither Okamura et al. nor Anzaki et al., alone or in combination, teaches or reasonably suggests performing such processes of producing a transparent laminate both at the applicant's claimed substrate temperature and at the applicant's claimed temperature-dependent deposition rate, a combination of which allows the claimed method to advantageously produce a transparent laminate having a reduced wavelength dependence of visible light transmittance, exhibit a color tone of neutral gray, and satisfy the need for electromagnetic wave shielding, near IR cutting, and visible light low-reflectance, as disclosed by the applicant. Therefore, independent Claims 14 and 32 are allowed. Since Claims 19 – 22 and 26 – 31 depend from Claim 14, these claims are also allowed.

Art Unit: 1762

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wesley D Markham  
Examiner  
Art Unit 1762

Application/Control Number: 09/746,228  
Art Unit: 1762

Page 6

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SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700